The Irish Forestry Land Market

April 2016

There has been significant growth in private ownership of forestry land in Ireland during the last thirty years. This has largely been driven by a combination of demand from Irish farmers for small holdings (incentivised through the availability of grants and premiums) and, particularly within recent years, demand from institutional investors and international investment funds for larger holdings and forestry portfolios.

Despite the relatively low proportion of land covered by forests in Ireland compared to other European countries, afforestation rates remain strong and this is being driven mainly by growth in private forestry holdings. The Irish forestry sector needs to keep pace with the growing demand for its product from timber processors and sawmills, which are continuing to grow their export markets.

This report provides some insight into forestry sales over the last five years. The data collected for this study suggests forestry land values experienced a drop in the average price per hectare between 2011 and 2012, falling by 18% from €9,697 per hectare to €7,991. However, values have increased year-on-year in the years since and currently stand at €9,838 per hectare.

Note: this research is based on a sample of n=88 forestry transactions conducted across Ireland between 2011 and 2015. Data has been collected from companies involved in forestry investment and management, as well members of the Society of Chartered Surveyors Ireland (SCSI). The data and information contained herein provides a snapshot of forestry land sales. SCSI intends to continue to collect historical data on forestry sales and will update this research when applicable.

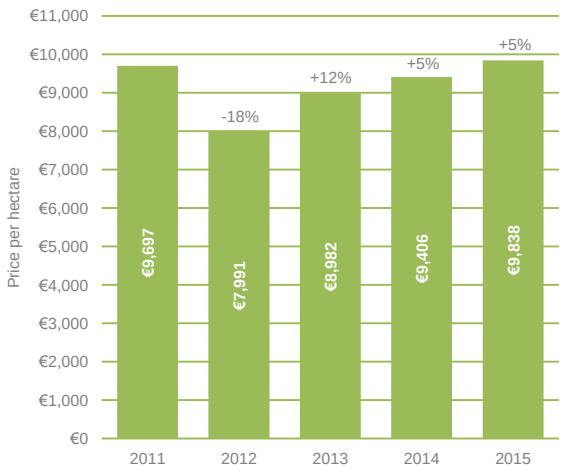
€9,838ha

Average price per hectare paid for forestry land in 2015

+5%

Change in price per hectare paid for forestry land between 2014 and 2015

Forestry land values in Ireland



Source: SCSI estimates

Note: based on a sample of n=88 forestry sales throughout the Republic of Ireland

The Irish forestry sector in numbers

Source: National Forestry Inventory (2012) and Ireland's Forests – Annual Statistics 2015, Department of Agriculture, Food and Marine

731,650ha

Total land area of Ireland covered by forests

46%

Proportion of forested land in private ownership

75%

Proportion of forest area less than 30yrs old

69%

Proportion of forested land accounted for by conifers

€2.3bn

Value to the Irish economy of forestry sector in 2012

Overview of the Irish forestry sector

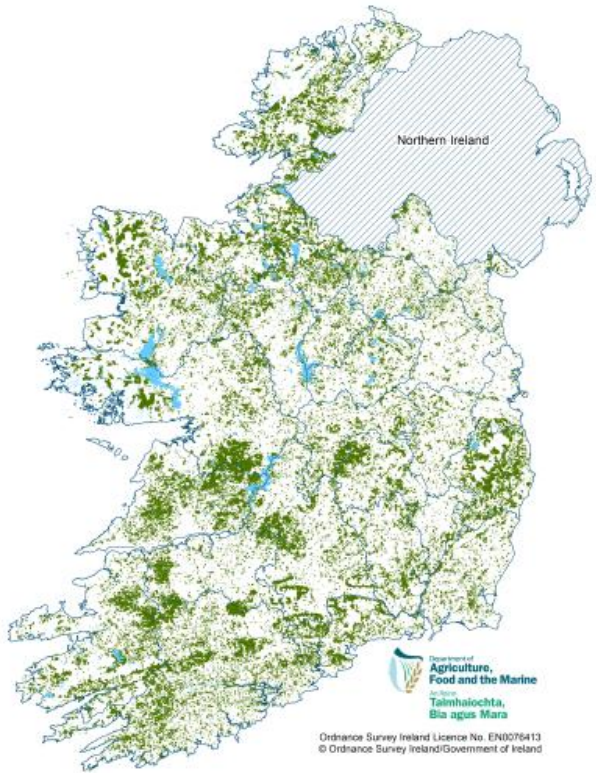
The National Forest Inventory (NFI) conducted between 2009 and 2012 recorded 731,650 hectares of forestry in Ireland, representing 10.5% of the total land area. This level of forest cover is particularly low in comparison with the rest of Europe, where just over 40% of land is classified as wooded land. At the end of 2013, forests covered 10.6% of Ireland's land area. The NFI also found that Wicklow is the county with the highest percentage of forest cover (18%), while Cork has the largest forest area (83,619 ha).

The ownership of forestry land is split between private and public ownership, with a slightly higher proportion (54%) in public ownership. However, much of the growth of forestry land in recent decades has been due to an increase in private holdings, driven in part to the availability of State-aided grants and premiums. The majority of this private forestry is farm forestry.

Nearly three quarters of the stocked forest area is less than 30 years of age. Conifers account for 69%, broadleaves 17% and mixed forests 14% of the stocked forest area. Sitka spruce is the predominant species.

The forest industry makes a significant contribution to the Irish economy. In 2012 the output of the overall forestry sector was worth €2.2bn and employed 12,000 people directly, the majority being rurally based.

Forestry cover in Ireland



Source: Department of Agriculture, Food and the Marine (2015)

Forestry grants, incentives and taxation

Prior to the 1980s, the majority of afforestation in Ireland was undertaken by the State. This changed, however, with the introduction of grants and annual payments (premiums), encouraging farmers to make a permanent change of agricultural land to forestry.

The Afforestation Grant and Premium Scheme supports forest establishment. There are 12 different grant and premium categories in the area of afforestation. GPC 3 (10% diverse mix) is the category of choice for many landowners establishing new forests, which attracts an annual premium of €510 per hectare over 15 years. It usually comprises a mix of Sitka spruce together with at least 10% diverse conifers. Broadleaves adjacent to roads and/or watercourses may also form part of this 10%.

There are also grants available for the construction of forestry roads to facilitate harvesting, the tending and thinning of broadleaves planted since 1980 and grants supporting the development of woodland amenities for public use and enjoyment.

Amendments to the afforestation scheme following the reform of the Common Agricultural Policy included an increase in the establishment grant to cover the full cost of establishment, along with the equalisation of premiums paid to farmers and non-farmers and a change to the time period (15 years) for which they are available (previously non-farmers received approximately one-third of the rate paid to farmers over just 15 years compared to 20 years for farmers).

Forestry investment has the added benefit of being tax efficient. The forest grants and premiums are free from income tax. Budget 2016 also removed the forestry income of active foresters and farmers from the High Earners Restriction Tax, which now means that profits earned from the clear-felling will not be subject to income tax. Stamp duty and capital gains tax only apply to the land, not the timber, and forestry qualifies for agricultural relief for inheritance tax.

Key factors affecting forestry land values

There are a variety of factors that impact on the value of forestry land:

- physical factors including location, size and access;
- forest characteristics such as productivity (yield class), species and age;
- legal and regulatory factors;
- the availability of grants/premiums; and
- other external considerations.

Geographical location

Given the costs associated with harvesting and transport, proximity to market(s), such as sawmills or wood energy producers, will generally influence the price a purchaser is willing to pay. However, non-commercial factors also can affect the decision to purchase e.g. the potential for sporting activities (fishing/hunting), or proximity to popular holiday destinations. Equally, investors are often keen to purchase forest lands that are close to where they live so they can view their holding on a regular basis.

Size of the forest

Larger forest plantations can attract an added price premium to reflect the possible economies of scale and ease of management that they afford. Notwithstanding this, there are a number of potential purchasers who are more influenced by lifestyle choices and non timber values than by commercial considerations. Thus small forest properties can achieve prices beyond their valuation for commercial timber production.

Access to the forest

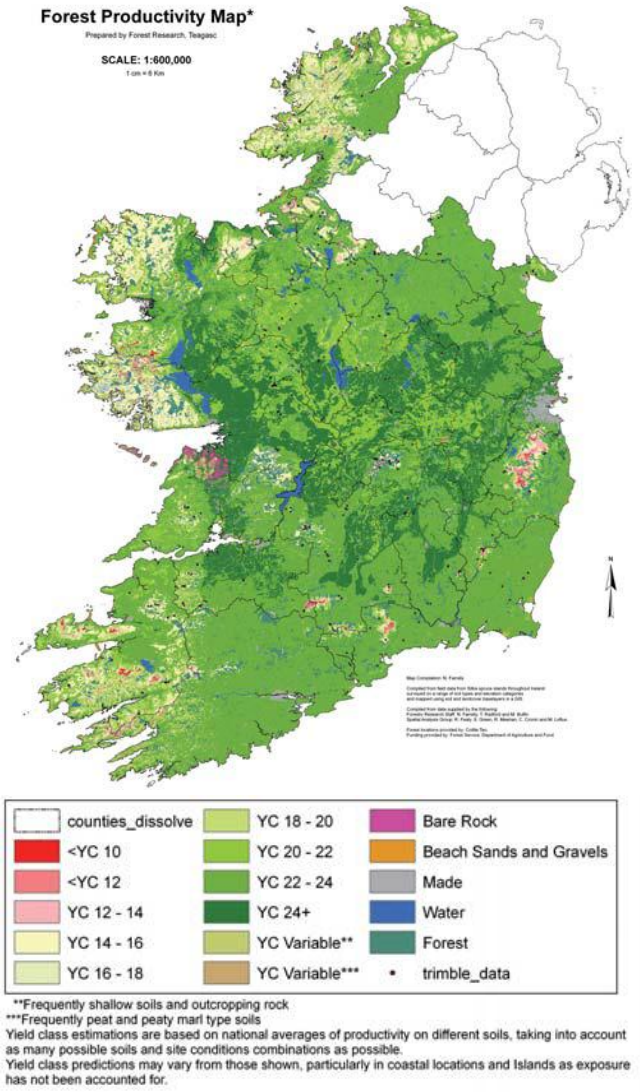
Forest properties are typically located adjoining third or fourth class roads many of which can have legal or practical (physically incapable) weight limits. Such restrictions limit access and may

require additional travel distance to market. On occasion, this may involve an intermediate step to get the harvested material to a suitable location for normal road transport. The presence of an existing internal forest road, provided it is fit for purpose, will eliminate the need for expenditure on road construction and make the forest more valuable.

Productivity (yield class)

The production potential of timber is referred to as yield class and is defined as the number of cubic metres per hectare per annum that a forest will produce over the rotation of maximum mean annual increment. Yield class, for a given tree species, will vary being generally higher for mineral soils than for organic (peat) soils. There is also a discernible decrease in yield class with increasing elevation on any given soil type.

Teagasc (Bulfin et al; 2015) conducted a national productivity survey examined of over 600 sample plots of Sitka spruce located across a broad range of soil types throughout Ireland. On each site the performance of the crop was measured by assessing the height growth and age of trees to calculate the general yield class of the crop. The outputs of this were used to develop a forest productivity map (see below), which provides an indicative assessment of the potential of forestry in any particular region.



Source: Bulfin et al; 2010

Species

The main market currently in Ireland is for conifer spruce species. Broadleaved species like oak and beech have quite long rotations, are more costly to manage and on similar sites produce less timber than conifers. Other broadleaves like ash or sycamore have shorter rotations but can be very variable in quality.

Age

A typical rotation for commercial coniferous plantation crops is of the order of 30 to 40 years. The stage of development of a forest has a major impact on the timing of future revenues and costs. Crops that have yet to reach canopy closure will have lower market value than crops which have reached pole stage (mid rotation).

Legal and regulatory factors

The greater majority of private forest plantations are held freehold, with leaseholds being uncommon. Access to many forest plantations may be by right-of-way or along shared roads.

The availability of grants/premiums

Under the new afforestation scheme forestry premiums are paid for 15 years to farmers and non-farmers and vary depending on the species. Commercial forests are generally designed so that, when the premiums run out, the forest is ready for thinning in order to maintain an income stream. Depending on the age of the forest, there may still be part of the establishment grant due as well as a number of premium payments, the extent of which relate to the status of the owner (farmer or non-farmer) and the species planted.

Other external considerations

The value of forestry land will also be affected by other external factors, some of which include the following:

- the general state of the economy and, in particular, the state of the construction sector;
- demand for timber and timber based exports;
- government policies around renewable energy and the use of woody biomass;
- availability of forestry land for sale;
- strength of demand to purchases; and
- availability and cost of finance.

Valuing forestry land

There has been some work of late providing guidance on the valuation of forestry land. There are four main methods for valuing forests:

1. **Transactions method:** an analysis of recent market transactions and historical trends regarding the prices achieved for forest sales;
2. **Cost based method:** value is estimated based on the cost to put in place a similar asset i.e. the cost to bring the forest to a similar stage of development;
3. **Lump sum method:** also known as the liquidation method, the forest value equates to the value that would be realised if all the growing stock (standing timber) in the forest plantation was harvested and the material placed on the market, less the cost of harvesting, transport and sales i.e. the stumpage value;
4. **Net present value (NPV) / discounted cash flow (DCF):** forest value equates to the discounted value of future net cashflows.

The approaches most commonly used in Ireland are the transactions and NPV/DCF methods. In the case of the latter, this requires the use of a discount rate, which is primarily determined by the risk associated with the investment. While there is no precise science involved in estimating discount rate, the most commonly used rate in Ireland is 5%, but this can vary between 4% and 6% depending on the characteristics associated with the investment.

The market for forestry land in Ireland

Demand

The vast majority of private forest owners in Ireland are farmers and while they represent the bulk of purchasers of farmland, other non-farmer individuals and institutions (private equity funds) also represent an important part of the market.

The market has matured in recent years and forestry is now viewed by many as a credible investment alternative. As an asset class forestry tends to exhibit less volatility and even during recession or downturns in the economy it continues to grow and put on volume increment.

Of note, demand is especially strong from mature investors and high net worth individuals that already have an knowledge/understanding of the forestry sector and are looking to diversify their existing investment portfolio with long-term pension planning in mind.

While landowners plant for a variety of reasons, the main decision is based on likely revenue. Income from timber sales when the forest reaches the thinning stage is attractive culminating in final harvest. Even though the availability of premiums provides an attractive incentive for investment, they are no longer the main reason for purchasing forestry land.

The future value of timber is critical when it comes to making the investment decision, with demand for timber expected to remain strong over the medium-term as the construction sector expands and demand increases from both wood-based energy producers and export markets.

There are of course individuals where commerciality is not the prime motivation and environmental considerations and lifestyle choices are more important as well as simply the desire to own a forest or a particular type of forest.

Supply

Despite the strong interest from potential buyers, forestry land is typically a small transactional market. The majority of sites coming to the market in a given year are small holdings, usually being sold through probate, or as a result of forced sales or family separation.

Government policy currently aims to increase Ireland's forest cover to 18% and establish 10,000 ha of new forests and woodlands per annum, which in itself has the potential to increase the availability of land. The availability of grants and premiums are in part designed to encourage landowners to bring underutilised and suitable lands into forestry. However, some farmers may be hesitant to commit their lands to forestry as this results in a permanent change of use.

Data on forestry land sales in Ireland

SCSI has compiled a series of transactional data from its own members, as well as companies involved in forestry investment and management in Ireland. The data set contains information on sales values over the period 2011 to 2015, as well as details for each transaction on the forest age, area, yields, species, quality of access and the county in which it was sold. The final data set contains a total of n=88 transactions. The table below provides a description of the data.

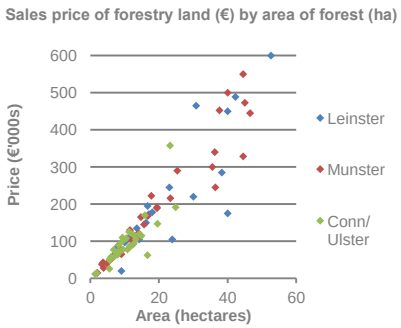
SCSI forestry land data

(number of observations; total n=88)

Region	n	Area	n	Age	n
Leinster	25	Up to 10ha	32	Bareland	18
Munster	31	11-20ha	32	1-10yrs	10
Conn / Ulster	32	21-30ha	7	11-15yrs	16
		31-40ha	9	16-20yrs	31
Year sold	**n**	More than 40ha	8	More than 21yrs	13
2011	17				
2012	20	**Yield class**	**n**		
2013	12	Up to 15	4		
2014	19	16-20	20		
2015	20	21-25	53		
		More than 25	11		

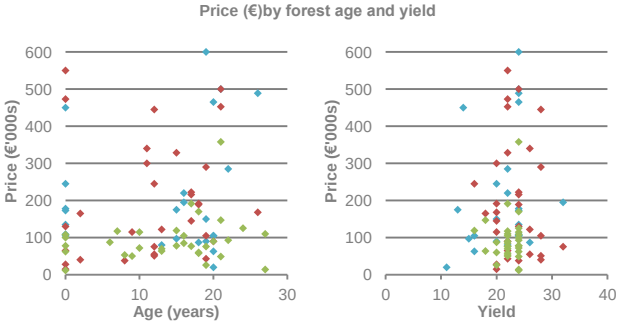
The average yield class for all forests is 22 and the average area is 19 hectares. The average age of planted forests is 16 years old. All properties comprise of either conifers (predominantly sitka spruce) or a mix of both conifers and broadleaves.

A visual inspection of the data provides some insight into the relationship between prices and key variables. In particular, there is a strongly positive relationship between price and area. The limited volume of data prevents any detailed sub-regional analysis, although the scatter plot below shows that the largest transactions in terms of price were recorded in Leinster and Munster.



Source: SCSI data

We can also look at how price interacts with other key variables such as age and yield class. Convention suggests that these should be positively associated with each other, yet there is no evidence of these relationships holding in this data set. Even looking at price per hectare, there is no obvious relationship present. That is not to say forest age or yield class do not impact on sales value, but there is no evidence of a relationship existing in this data set.



Source: SCSI data

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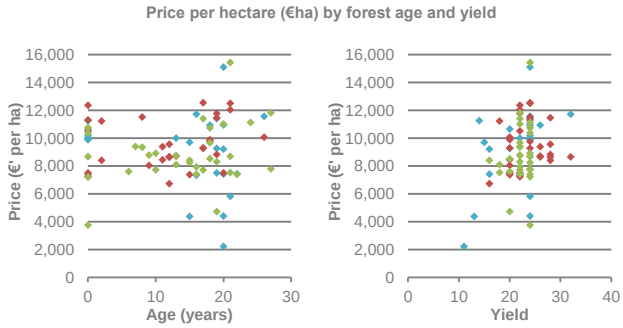


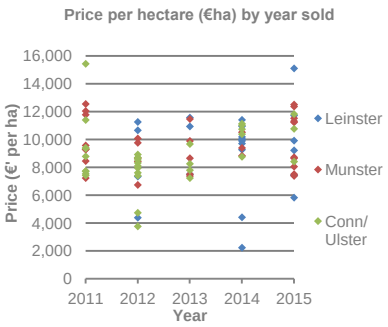
Source: SCSI data

The relationship between variables was explored further using econometric modelling techniques, looking at the interaction between price and area, forest age, yield class, location, forestry type and quality of access. A priori, one would expect to see a positive relationship between price and area, age, yield class and quality of access. While the model found a strongly positive and statistically significant relationship between price and area, other variables in the model were not statistically significant.

In addition, the relationship between price and other variables was considered using different specifications of the model. This included if the property was bareland (the expectation that bareland attracts a premium given the availability of planting grants and premiums) and an interaction variable to model the relationship between price, forest age and yield class (the expectation that more mature forests with higher yield classes attract higher prices). In both cases, there was no statistically significant relationship present between price and these variables.

The lack of a statistically significant association between price and variables such as forestry age, yield class and quality of access suggest the size of the property is the over-riding factor determining the property sale price. It could be that variables such as forestry age, yield class and accessibility are more likely to affect the viability of a transaction. Of course, that is not to say that these variables do not affect Irish forestry values, but rather that no relationship was evident in this sample of forestry sales. The analysis would benefit further from more transactional data.

Looking at the price per hectare for each year, there is considerable variability in values across the data set, with the majority of transactions occurring between €7,000 and €12,000 per hectare. This variability in values and the relatively low sample sizes involved should be taken into consideration when analysing the estimated annual average price per hectare.

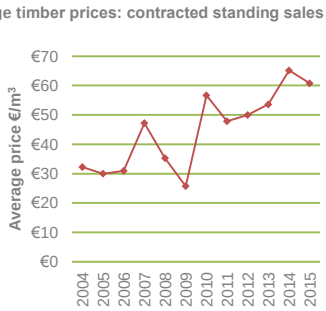


Source: SCSI data

Outlook for the forestry land market

In the short to medium term, the outlook for the Irish forestry land market is relatively positive due to a variety of factors. The improvement in the domestic economy, growth in employment and ongoing high levels of consumer confidence helps maintain a favourable climate for transactional activity. This is further supported by the generous grants and premiums available to the forestry sector.

The immediate demand for timber products is also favourable, with on-going demand for roundwood for use in sawmills, panel mills and for the provision of wood-biomass energy. Growth in the construction in the residential and commercial property sectors will help drive demand for timber products in Ireland. Timber exports should also continue to benefit from the favourable international economic climate. Timber prices have performed very well in recent years, although there was a moderate drop in average prices during 2015, which may partly be due to a reaction to exchange rate dynamics and the stronger Euro in the latter half of 2016.



Source: Coillte Sales & Marketing (via http://www.teagasc.ie/forestry/advice/timber_prices.asp)

Looking further ahead over the long-run, forestry land in Ireland is well positioned to experience continued demand. The fact that it is a land based investment, offering a reasonable return with fairly low levels of risk will ensure it remains in demand, with larger investors using it to diversify their investment portfolio and smaller investors looking for a relatively safe return over a long period of time. Given that the State is committed to increasing afforestation rates and to continue to grow the total forest cover in Ireland means it is likely the current grants and premiums schemes will remain in place for some time to come.

There is also a need for forestry to meet the future needs of the Irish timber sector, particularly with the growth in demand for biomass products and rising demand for Irish timber from international markets. A recent COFORD (Barret et al; 2016) report shows that over the period to 2035, the production capacity of Ireland's forests will have almost doubled to 7.87 million cubic metres, from the current 3.95 million. Almost all the increased supply is to come from privately-owned forests i.e. areas established over the past 25 years on foot of private sector investment.

Relative to other competitor locations for forestry investment, Irish forestry offers considerably higher productivity rates. Research from Teagasc (Farrelly; 2010) shows that production levels for all species on farm forest plantations in Ireland were above the average for the UK, Sweden, Canada and USA. Ireland typically has a longer growing season due to higher rainfall levels and the absence of extreme variations in temperature. This, combined with favourable soil types means Ireland has a comparative advantage in growing Sitka Spruce.

Irish forestry is also competitively priced relative to the UK market, where the average price per hectare was €10,990 (£8,615) in 2015 based on current exchange rates (Savills; 2016), almost 12% higher than the estimate of €9,838 per hectare for Ireland. In addition to the higher productivity rates relative to the UK already mentioned above, investing in Irish forestry also has the added attraction of the offer of grants and premiums.

Sources

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